



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

Ref: 8P2-W-GW

MAY 4 1998

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Kathy Turner
Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P. O. Box 1839
Hutchinson, Kansas 67504-1839

RE: **UNDERGROUND INJECTION CONTROL (UIC)**
CONVERSION OF ADDITIONAL WELL to
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

Dear Ms. Turner:

Your letter of December 22, 1997, requesting that the following production well be converted to a Class II enhanced oil recovery well and added to the Antelope Creek Waterflood, as authorized under the **Modified EPA Area Permit #UT2736-00000** is hereby granted.

<u>NAME</u>	<u>LOCATION</u>	<u>EPA WELL PERMIT NO.</u>
<i>Ute Tribal #33-08D3</i>	SE/NE Section 33 T 4 S - R 3 W Duchesne County, UT	#UT2736-04422

This additional well is within the boundary of the recently modified area permit for the Antelope Creek Waterflood (UT2736-00000), and this addition is made by modification under the authority of 40 CFR § 144.33 (c) and according to the terms and conditions of that permit. Unless specifically mentioned in this Modification, all terms and conditions of the modified permit will apply to the construction, operation, monitoring, and plugging and abandonment of this additional injection well. The proposed well location, well schematic, conversion procedures, plugging and abandonment plan and schematic, submitted by your office, have been reviewed and approved as follows:

- (1) The **conversion** of this production well has been reviewed, and found satisfactory, therefore, no corrective action is required.
- (2) **Maximum injection pressure (Pmax)** - the permittee shall limit the maximum surface injection pressure (Pmax) to 2376 psig. Permit provision have been made that allow the operator to request an increase or decrease in the injection pressure.



The permittee submitted a list of nine (9) individual zones, within the Ute Tribal #33-08D3, which were individually fraced and established an average fracture gradient (Fg) of 0.98 psi/ft. which was derived from instantaneous shut-in pressures (ISIP's) from each zone. This Fg is acceptable to the Environmental Protection Agency (EPA), and a theoretical maximum allowable surface injection pressure (Pmax), for this well, may be calculated as shown below:

$$P_{max} = [Fg - 0.433 (Sg)] d$$

Where: Pmax = Maximum surface injection pressure at wellhead

d = 4343' shallowest perforations after conversion

Sg = Specific gravity of injected water.

$$P_{max} = [0.98 - .433 (1.00)] 4343$$

$$P_{max} = 2376 \text{ psig}$$

Until such time as the permittee demonstrates that a fracture gradient other than 0.98 psi/ft applies to the disposal zones of this newly converted well, the maximum allowable wellhead injection pressure (Pmax) for this well will be 2376 psig.

- (3) The plugging and abandonment plan and schematic, submitted by your office, has been reviewed, and approved.

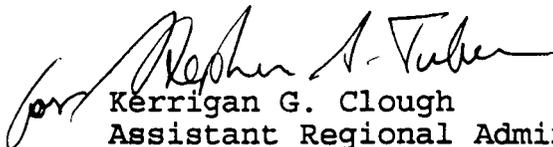
Prior to commencing injection into this well, permittee must fulfill permit condition Part II, C. 2. and have received separate written authorization to inject by the Environmental Protection Agency. In summary, these requirements for your newly permitted injection well are:

- (1) All conversion is complete and the permittee has submitted a completed Well Rework Record (EPA Form 7520-12).
- (2) The pore pressure has been determined.
- (3) The well has successfully completed and passed a mechanical integrity test (MIT); EPA form enclosed.

All other provisions and conditions of the permit remain as originally issued and/or recently modified.

If you have any questions, please contact Mr. Chuck Williams at (303) 312-6625. Also, please direct the above requirements to Mr. Williams at the above letterhead address, citing **MAIL CODE 8P2-W-GW**. Thank you for your continued cooperation.

Sincerely,



Kerrigan G. Clough
Assistant Regional Administrator
Office of Pollution Prevention,
State and Tribal Assistance

Enclosure: EPA Form

cc: Mr. Ronald Wopsock, Chairman
Uintah & Ouray Business Committee

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

5/5/98 CW 3293C *403 794* *Yates Tribunal #33-0803*

SENDER:
 ■ Complete items 1 and/or 2 for additional services.
 ■ Complete items 3, 4a, and 4b.
 ■ Print your name and address on the reverse of this form so that we can return this card to you.
 ■ Attach this form to the front of the mailpiece, or on the back if space does not permit.
 ■ Write "Return Receipt Requested" on the mailpiece below the article number.
 ■ The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
 1. Addressee's Address
 2. Restricted Delivery
 Consult postmaster for fee.

3. Article Addressed to:
Ms. Kathy Turner
Geology/Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P.O. Box 1839
Hutchinson, KS 67504-1839

4a. Article Number
P 213 403 794

4b. Service Type
 Registered Certified
 Express Mail Insured
 Return Receipt for Merchandise COD

7. Date of Delivery **MAY 8 1998**

5. Received By: (Print Name)
Kathy Turner

6. Signature: (Addressee or Agent)
X Kathy Turner

8. Addressee's Address (Only if requested and fee is paid)
needed
MAY 11 1998

PS Form 3811, December 1994 Domestic Return Receipt

Is your RETURN ADDRESS completed on the reverse side? Thank you for using Return Receipt Service.

P 213 403 794

5/5/98 CW 3293C

US Postal Service
Receipt for Certified Mail
 No Insurance Coverage Provided.
 Do not use for International Mail (See reverse)

Sent to	Ms. Kathy Turner
Street & Number	Geology/Petroleum Engineering Technician
Post Office, State, & ZIP Code	Petroglyph Operating Company, Inc.
Postage	P.O. Box 1839 \$ Hutchinson, KS 67504-1839
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, April 1995



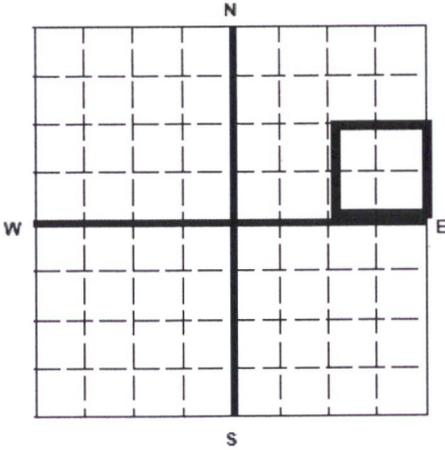
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



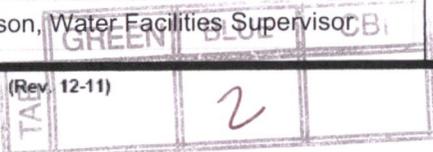
State Utah	County Duchesne	Permit Number UT2736-04422
Surface Location Description ___ 1/4 of ___ 1/4 of SE 1/4 of ___ 1/4 of Section <u>33</u> Township <u>4S</u> Range <u>3W</u>		
Locate well in two directions from nearest lines of quarter section and drilling unit		
Surface Location <u>1848</u> ft. frm (N/S) <u>N</u> Line of quarter section and <u>762</u> ft. from (E/W) <u>E</u> Line of quarter section.		
WELL ACTIVITY <input type="checkbox"/> Brine Disposal <input checked="" type="checkbox"/> Enhanced Recovery <input type="checkbox"/> Hydrocarbon Storage	TYPE OF PERMIT <input type="checkbox"/> Individual <input checked="" type="checkbox"/> Area Number of Wells <u>111</u>	
Lease Name <u>Ute Indian Tribe</u>		Well Number <u>UTE TRIBAL 33-08-D3</u>

MONTH	YEAR	INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
		AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	16	2076	2088	6170		0	0
February	16	2094	2099	6604		0	0
March	16	2101	2110	6722		0	0
April	16	2096	2106	6121		0	0
May	16	2109	2117	6963		0	0
June	16	2084	2115	5689		0	0
July	16	2102	2120	6746		0	0
August	16	2091	2113	6820		0	0
September	16	2075	2088	5730		0	0
October	16	2083	2095	6355		0	0
November	16	2060	2086	4712		0	0
December	16	2066	2074	5244		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print) Chad Stevenson, Water Facilities Supervisor	Signature <i>[Signature]</i>	Date Signed 03/21/2017
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U2 Entered
Date 4/26/17
Initial CS

Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH OPERATING CO INC - EBUS**
Well Name: **UTE TRIBAL 33-08D3 INJ, DUCHESNE**
Sample Point: **Well Head**
Sample Date: **1/3/2017**
Sample ID: **WA-344972**

Sales Rep: **James Patry**
Lab Tech: **Kaitlyn Natelli**

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
		Cations		Anions	
		mg/L		mg/L	
Test Date:	1/9/2017	Sodium (Na):	3961.45	Chloride (Cl):	5000.00
System Temperature 1 (°F):	60	Potassium (K):	30.41	Sulfate (SO4):	1.00
System Pressure 1 (psig):	2000	Magnesium (Mg):	6.17	Bicarbonate (HCO3):	2074.00
System Temperature 2 (°F):	180	Calcium (Ca):	14.51	Carbonate (CO3):	
System Pressure 2 (psig):	50	Strontium (Sr):	4.98	Hydroxide (HO):	
Calculated Density (g/ml):	1.0050	Barium (Ba):	37.00	Acetic Acid (CH3COO)	
pH:	8.25	Iron (Fe):	1.49	Propionic Acid (C2H5COO)	
Calculated TDS (mg/L):	11158.86	Zinc (Zn):	0.29	Butanoic Acid (C3H7COO)	
CO2 in Gas (%):		Lead (Pb):	0.18	Isobutyric Acid ((CH3)2CHCOO)	
Dissolved CO2 (mg/L):	0.00	Ammonia (NH3):		Fluoride (F):	
H2S in Gas (%):		Manganese (Mn):	0.10	Bromine (Br):	
H2S in Water (mg/L):	0.00	Aluminum (Al):	0.00	Silica (SiO2):	27.28
Tot. Suspended Solids (mg/L):		Lithium (Li):	3.63	Calcium Carbonate (CaCO3):	
Corrosivity (Langlier Sat. Indx)	0.00	Boron (B):	5.75	Phosphates (PO4):	5.85
Alkalinity:		Silicon (Si):	12.75	Oxygen (O2):	

Notes:

(PTB = Pounds per Thousand Barrels)

Temp (°F)	PSI	Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	1.21	11.70	0.00	0.00	0.00	0.00	2.40	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	1.11	11.42	0.00	0.00	0.00	0.00	2.29	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	1.03	11.17	0.00	0.00	0.00	0.00	2.19	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	0.96	10.88	0.00	0.00	0.00	0.00	2.09	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	0.89	10.57	0.00	0.00	0.00	0.00	1.99	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	0.83	10.25	0.00	0.00	0.00	0.00	1.89	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	0.77	9.90	0.00	0.00	0.00	0.00	1.80	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	0.72	9.55	0.06	0.11	0.00	0.00	1.70	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	0.68	9.20	0.17	0.27	0.00	0.00	1.61	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	0.64	8.86	0.30	0.41	0.00	0.00	1.51	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

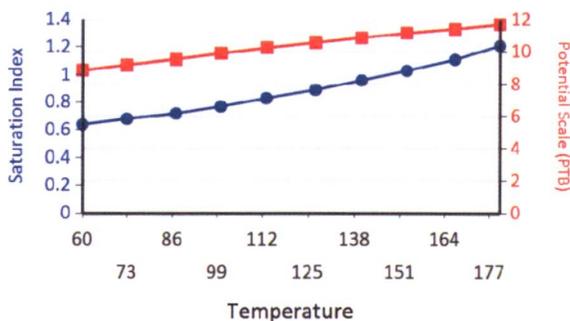
Water Analysis Report

Temp (°F)	PSI	Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54	0.19	0.00	0.00	3.98	11.22	2.02	13.88	9.41	1.16
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37	0.19	0.00	0.00	3.24	10.33	1.57	11.04	8.84	1.16
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	0.18	0.00	0.00	2.60	9.21	1.20	8.68	8.38	1.16
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.18	0.00	0.00	1.96	7.67	0.83	6.22	7.93	1.16
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.17	0.00	0.00	1.32	5.67	0.47	3.69	7.49	1.16
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.15	0.00	0.00	0.68	3.23	0.10	1.10	7.06	1.15
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.13	0.00	0.00	0.03	0.38	0.00	0.00	6.64	1.15
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.09	0.00	0.00	0.00	0.00	0.00	0.00	6.22	1.15
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	5.82	1.14
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.42	1.14

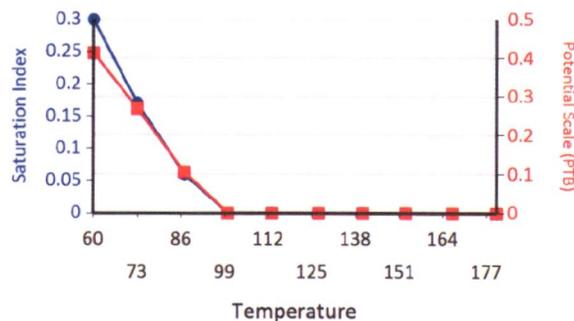
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Fe Silicate

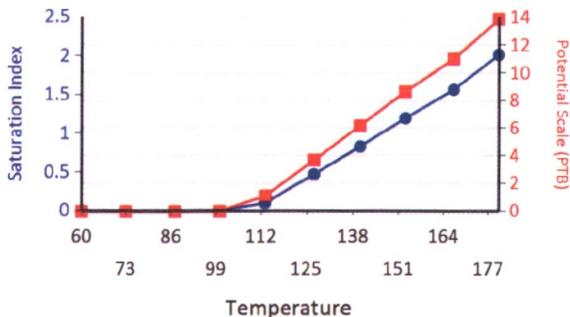
Calcium Carbonate



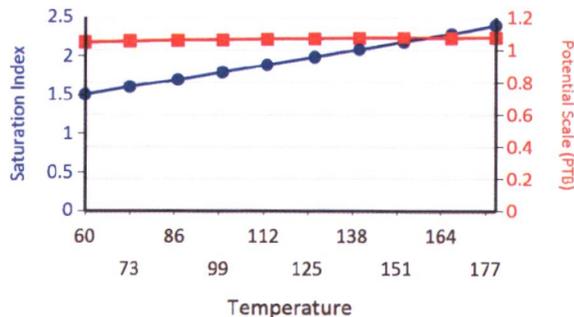
Barium Sulfate



Ca Mg Silicate

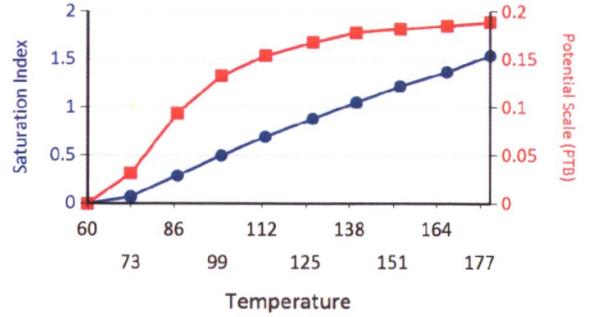


Iron Carbonate

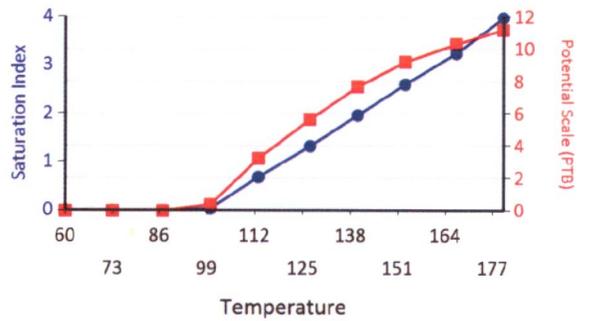


Water Analysis Report

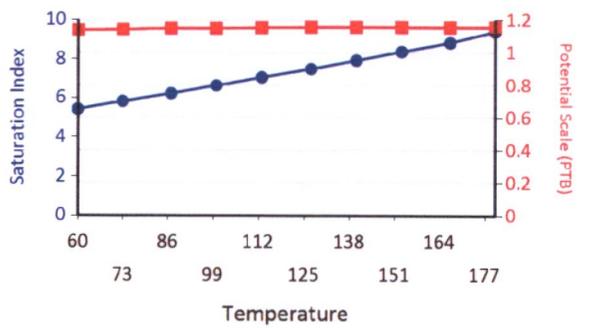
Zinc Carbonate



Mg Silicate



Fe Silicate





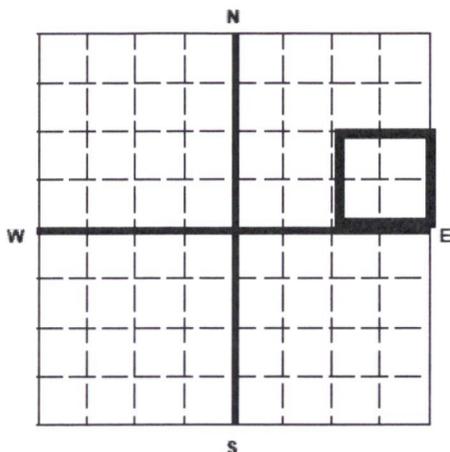
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



State Utah County Duchesne Permit Number UT2736-04434 04422

Surface Location Description
 1/4 of 1/4 of SE 1/4 of NE 1/4 of Section 33 Township 4S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 1848 ft. frm (N/S) N Line of quarter section
and 762 ft. from (E/W) E Line of quarter section.

U2 Entered
Date 3/31/16
Initial JS

WELL ACTIVITY TYPE OF PERMIT
 Brine Disposal Individual
 Enhanced Recovery Area
 Hydrocarbon Storage Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 33-08-D3

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING - CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	15	2039	2060	6061		0	0
February	15	2054	2062	6269		0	0
March	15	2056	2067	7098		0	0
April	15	2055	2056	6325		0	0
May	15	2064	2072	7048		0	0
June	15	2067	2074	7027		0	0
July	15	2075	2077	7206		0	0
August	15	2074	2085	7044		0	0
September	15	2074	2082	6407		0	0
October	15	2088	2097	7052		0	0
November	15	2092	2095	6504		0	0
December	15	2101	2110	7096		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)
Chad Stevenson, Water Facilities Supervisor

Signature
[Handwritten Signature]

Date Signed
02/08/2016



Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH OPERATING CO INC - EBUS**
 Well Name: **UTE TRIBAL 33-08D3 INJ, DUCHESNE**
 Sample Point: **Well Head**
 Sample Date: **1/6/2016**
 Sample ID: **WA-327700**

Sales Rep: **James Patry**
 Lab Tech: **Michele Pike**

Scaling potential predicted using ScaleSoftPitzer from
 Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
		Cations		Anions	
		mg/L		mg/L	
Test Date:	1/14/2016	Sodium (Na):	5103.65	Chloride (Cl):	6500.00
System Temperature 1 (°F):	60	Potassium (K):	32.42	Sulfate (SO4):	10.00
System Pressure 1 (psig):	2000	Magnesium (Mg):	8.28	Bicarbonate (HCO3):	2562.00
System Temperature 2 (°F):	180	Calcium (Ca):	26.26	Carbonate (CO3):	
System Pressure 2 (psig):	50	Strontium (Sr):	5.39	Acetic Acid (CH3COO)	
Calculated Density (g/ml):	1.0072	Barium (Ba):	34.26	Propionic Acid (C2H5COO)	
pH:	8.50	Iron (Fe):	2.10	Butanoic Acid (C3H7COO)	
Calculated TDS (mg/L):	14310.35	Zinc (Zn):	0.62	Isobutyric Acid ((CH3)2CHCOO)	
CO2 in Gas (%):		Lead (Pb):	0.47	Fluoride (F):	
Dissolved CO2 (mg/L):	0.00	Ammonia (NH3):		Bromine (Br):	
H2S in Gas (%):		Manganese (Mn):	0.00	Silica (SiO2):	24.90
H2S in Water (mg/L):	0.00	Aluminum (Al):	0.05	Calcium Carbonate (CaCO3):	
Tot. Suspended Solids (mg/L):		Lithium (Li):	2.12	Phosphates (PO4):	5.91
Corrosivity (Langlier Sat. Indx)	0.00	Boron (B):	4.68	Oxygen (O2):	
Alkalinity:		Silicon (Si):	11.64		

Notes:

(PTB = Pounds per Thousand Barrels)

Temp (°F)	PSI	Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	1.68	22.34	0.51	5.02	0.00	0.00	2.77	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	1.60	22.20	0.54	5.19	0.00	0.00	2.68	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	1.53	22.06	0.57	5.41	0.00	0.00	2.59	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	1.47	21.91	0.62	5.67	0.00	0.00	2.50	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	1.41	21.76	0.67	5.97	0.00	0.00	2.41	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	1.36	21.59	0.74	6.29	0.00	0.00	2.32	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	1.31	21.42	0.82	6.62	0.00	0.00	2.23	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	1.27	21.25	0.92	6.96	0.00	0.00	2.14	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	1.23	21.08	1.03	7.28	0.00	0.00	2.05	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	1.19	20.91	1.16	7.58	0.00	0.00	1.97	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

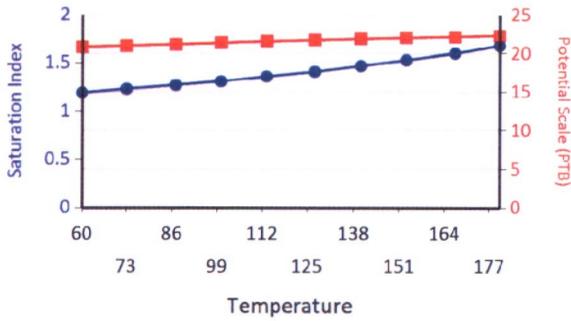
Water Analysis Report

Temp (°F)	PSI	Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.06	0.41	0.00	0.00	5.34	16.04	3.00	22.94	10.83	1.63
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91	0.41	0.00	0.00	4.71	15.69	2.64	21.13	10.37	1.63
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	0.41	0.00	0.00	4.13	15.21	2.30	19.33	9.98	1.63
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61	0.41	0.00	0.00	3.55	14.48	1.97	17.30	9.58	1.63
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.40	0.00	0.00	2.96	13.42	1.64	15.05	9.20	1.63
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.40	0.00	0.00	2.37	11.92	1.32	12.61	8.82	1.63
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.38	0.00	0.00	1.77	9.91	0.99	9.97	8.44	1.63
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.36	0.00	0.00	1.17	7.29	0.66	7.13	8.08	1.63
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.33	0.00	0.00	0.56	4.02	0.34	4.06	7.71	1.63
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.27	0.00	0.00	0.00	0.00	0.01	0.73	7.35	1.63

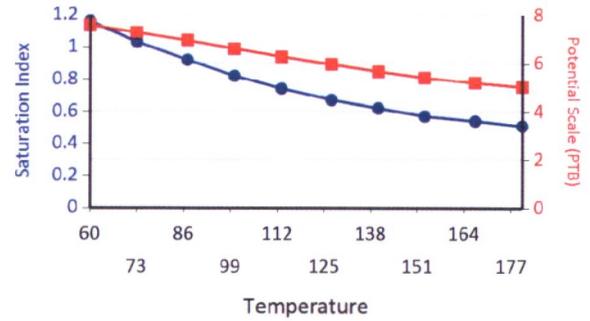
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Ca Mg Silicate Fe Silicate

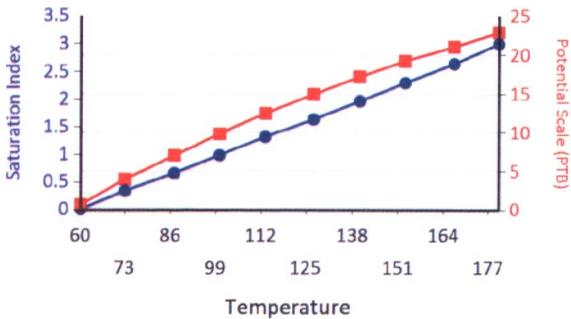
Calcium Carbonate



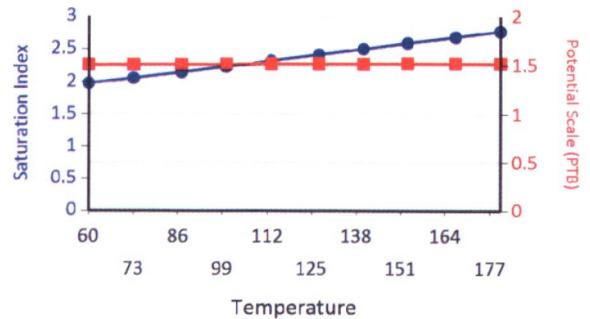
Barium Sulfate



Ca Mg Silicate

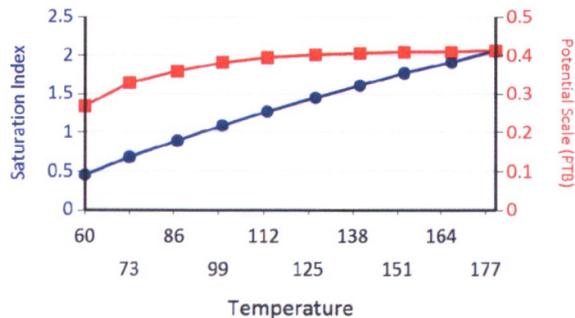


Iron Carbonate

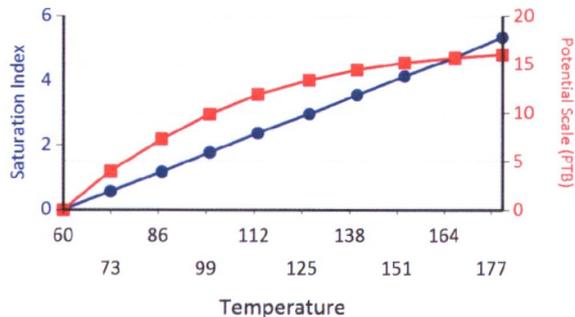


Water Analysis Report

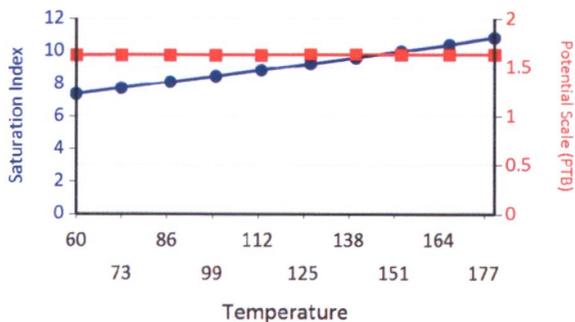
Zinc Carbonate



Mg Silicate



Fe Silicate





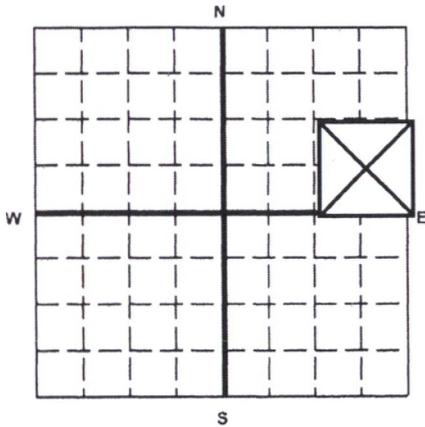
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



State Utah County Duchesne Permit Number UT2736-04422

Surface Location Description
1/4 of 1/4 of SE 1/4 of NE 1/4 of Section 33 Township 4S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface
Location 1848 ft. frm (N/S) N Line of quarter section
and 762 ft. from (E/W) E Line of quarter section.

WELL ACTIVITY TYPE OF PERMIT
 Brine Disposal Individual
 Enhanced Recovery Area
 Hydrocarbon Storage Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 33-08-D3

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	14	2013	2025	4867		0	0
February	14	2003	2007	3864		0	0
March	14	2009	2038	5298		0	0
April	14	2046	2059	6855		0	0
May	14	2041	2042	7412		0	0
June	14	2017	2029	6224		0	0
July	14	2013	2027	5120		0	0
August	14	2031	2035	6464		0	0
September	14	2023	2034	5501		0	0
October	14	2038	2033	6850		0	0
November	14	2054	2057	6997		0	0
December	14	2056	2064	7287		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)
Chad Stevenson, Water Facilities Supervisor

Signature
[Handwritten Signature]

Date Signed
2/10/2015

U2 Entered
Date 3/31/15
Initial GW

	GREEN	BLUE	CBI
TAB		2	

Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH OPERATING CO INC - EBUS**
Well Name: **UTE TRIBAL 33-08D3 INJ, DUCHESNE**
Sample Point: **WELLHEAD**
Sample Date: **1/7/2015**
Sample ID: **WA-297433**

Sales Rep: **James Patry**
Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
		Cations		Anions	
		mg/L		mg/L	
Test Date:	1/14/2015	Sodium (Na):	154.57	Chloride (Cl):	1000.00
System Temperature 1 (°F):	160	Potassium (K):	1.47	Sulfate (SO4):	325.00
System Pressure 1 (psig):	1300	Magnesium (Mg):	75.21	Bicarbonate (HCO3):	536.80
System Temperature 2 (°F):	80	Calcium (Ca):	152.15	Carbonate (CO3):	
System Pressure 2 (psig):	15	Strontium (Sr):	4.41	Acetic Acid (CH3COO)	
Calculated Density (g/ml):	0.9987	Barium (Ba):	0.11	Propionic Acid (C2H5COO)	
pH:	6.50	Iron (Fe):	1.68	Butanoic Acid (C3H7COO)	
Calculated TDS (mg/L):	2278.54	Zinc (Zn):	0.45	Isobutyric Acid ((CH3)2CHCOO)	
CO2 in Gas (%):		Lead (Pb):	0.05	Fluoride (F):	
Dissolved CO2 (mg/L):	16.00	Ammonia NH3:		Bromine (Br):	
H2S in Gas (%):		Manganese (Mn):	0.05	Silica (SiO2):	26.59
H2S in Water (mg/L):	5.00				

Notes:

B=.71 Al=0 Li=.22

(PTB = Pounds per Thousand Barrels)

Temp (°F)	PSI	Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.64	0.05	0.85	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.54	0.23
88.00	157.00	0.00	0.00	0.55	0.05	0.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.29	0.23
97.00	300.00	0.00	0.00	0.48	0.04	0.69	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.17	0.23
106.00	443.00	0.00	0.00	0.41	0.04	0.69	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.07	0.23
115.00	585.00	0.00	0.00	0.35	0.04	0.69	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.98	0.23
124.00	728.00	0.00	0.00	0.29	0.03	0.71	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.89	0.23
133.00	871.00	0.00	0.00	0.24	0.03	0.73	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.81	0.23
142.00	1014.00	0.01	1.06	0.19	0.02	0.75	0.73	0.05	0.13	0.00	0.00	0.00	0.00	0.00	0.00	7.74	0.23
151.00	1157.00	0.06	5.52	0.16	0.02	0.78	0.74	0.11	0.28	0.00	0.00	0.00	0.00	0.00	0.00	7.68	0.23
160.00	1300.00	0.11	10.07	0.12	0.02	0.82	0.76	0.18	0.41	0.00	0.00	0.00	0.00	0.00	0.00	7.62	0.23

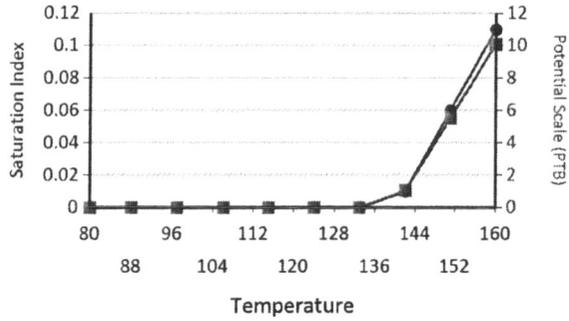
Temp (°F)	PSI	Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.86	0.02	0.00	0.00	0.00	0.00	0.00	0.00
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.49	0.02	0.00	0.00	0.00	0.00	0.00	0.00
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.27	0.02	0.00	0.00	0.00	0.00	0.00	0.00
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.88	0.02	0.00	0.00	0.00	0.00	0.00	0.00
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.70	0.02	0.00	0.00	0.00	0.00	0.00	0.00
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.54	0.02	0.00	0.00	0.00	0.00	0.00	0.00
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.38	0.02	0.00	0.00	0.00	0.00	0.00	0.00
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.24	0.02	0.00	0.00	0.00	0.00	0.00	0.00
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00

Water Analysis Report

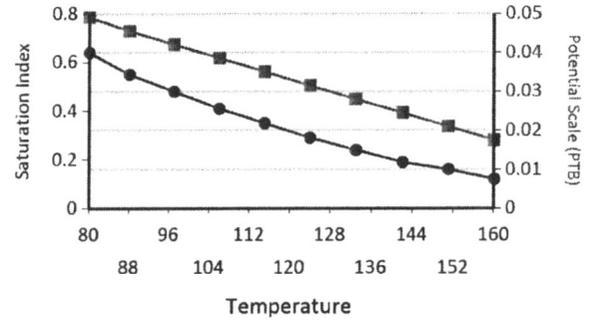
These scales have positive scaling potential under initial temperature and pressure: Barium Sulfate Iron Sulfide Zinc Sulfide Lead Sulfide

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Lead Sulfide

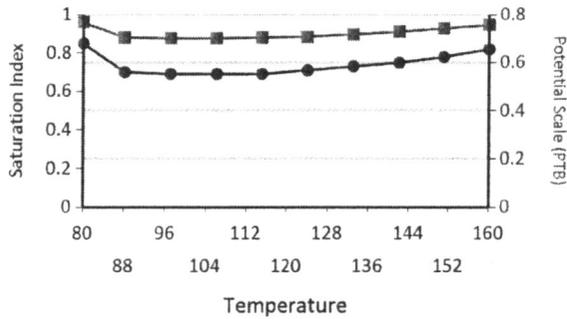
Calcium Carbonate



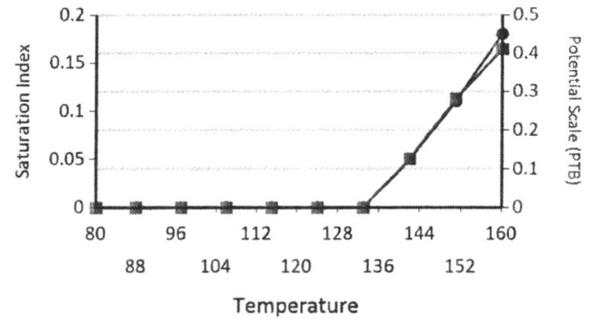
Barium Sulfate



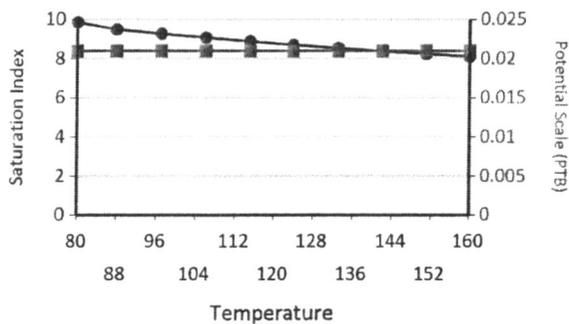
Iron Sulfide



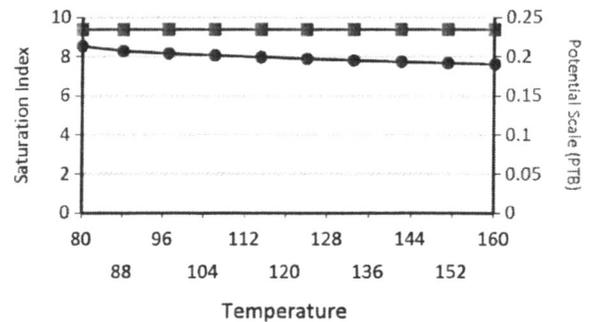
Iron Carbonate



Lead Sulfide



Zinc Sulfide





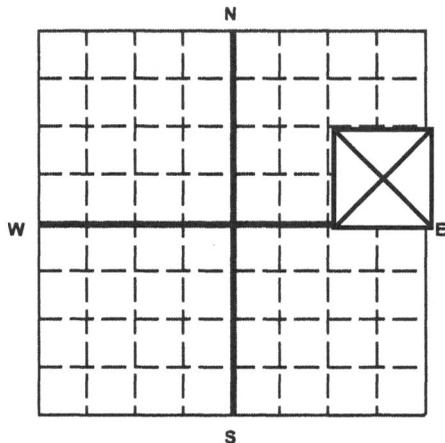
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



State Utah County Duchesne Permit Number UT2736-04422

Surface Location Description
 1/4 of 1/4 of SE 1/4 of NE 1/4 of Section 33 Township 4S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit
Surface
Location 1848 ft. frm (N/S) N Line of quarter section
and 762 ft. from (E/W) E Line of quarter section.

WELL ACTIVITY TYPE OF PERMIT
 Brine Disposal Individual
 Enhanced Recovery Area
 Hydrocarbon Storage Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 33-08-D3

MONTH	YEAR	INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING - CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
		AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	13	1934	1945	4074		0	0
February	13	1934	1946	4171		0	0
March	13	1934	1952	4569		0	0
April	13	1968	1980	5529		0	0
May	13	1969	1979	4707		0	0
June	13	1972	1981	3882		0	0
July	13	2006	2017	5268		0	0
August	13	2009	2010	5339		0	0
September	13	2022	2033	5997		0	0
October	13	2015	2025	5893		0	0
November	13	2028	2031	6558		0	0
December	13	2022	2029	5690		0	0

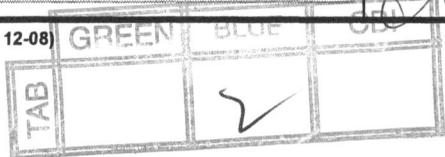
Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)
Chad Stevenson, Water Facilities Supervisor

Signature
[Handwritten Signature]

Date Signed
2/11/2014



U2 Entered
Date 3/2/14
Initial DS

Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH ENERGY INC**
 Well Name: **UTE TRIBAL 33-08D3 INJ**
 Sample Point: **Wellhead**
 Sample Date: **1/8/2014**
 Sample ID: **WA-263010**

Sales Rep: **James Patry**
 Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from
 Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
		<i>Cations</i>	<i>mg/L</i>	<i>Anions</i>	<i>mg/L</i>
Test Date:	1/15/2014	Sodium (Na):	779.48	Chloride (Cl):	1000.00
System Temperature 1 (°F):	180	Potassium (K):	1.80	Sulfate (SO4):	373.00
System Pressure 1 (psig):	1300	Magnesium (Mg):	64.00	Bicarbonate (HCO3):	610.00
System Temperature 2 (°F):	60	Calcium (Ca):	132.00	Carbonate (CO3):	
System Pressure 2 (psig):	15	Strontium (Sr):	4.00	Acetic Acid (CH3COO)	
Calculated Density (g/ml):	0.999	Barium (Ba):	0.30	Propionic Acid (C2H5COO)	
pH:	7.00	Iron (Fe):	1.40	Butanoic Acid (C3H7COO)	
Calculated TDS (mg/L):	2988.03	Zinc (Zn):	0.37	Isobutyric Acid ((CH3)2CHCOO)	
CO2 in Gas (%):		Lead (Pb):	0.12	Fluoride (F):	
Dissolved CO2 (mg/L):	0.00	Ammonia NH3:		Bromine (Br):	
H2S in Gas (%):		Manganese (Mn):	0.16	Silica (SiO2):	21.40
H2S in Water (mg/L):	0.00				

Notes:

B=.55 Al=0 Li=.02

(PTB = Pounds per Thousand Barrels)

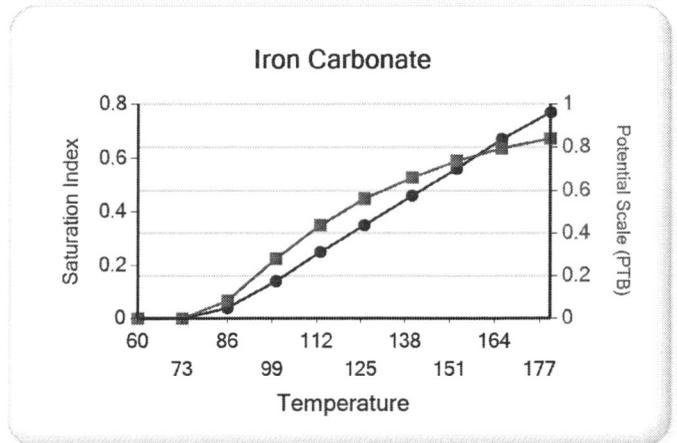
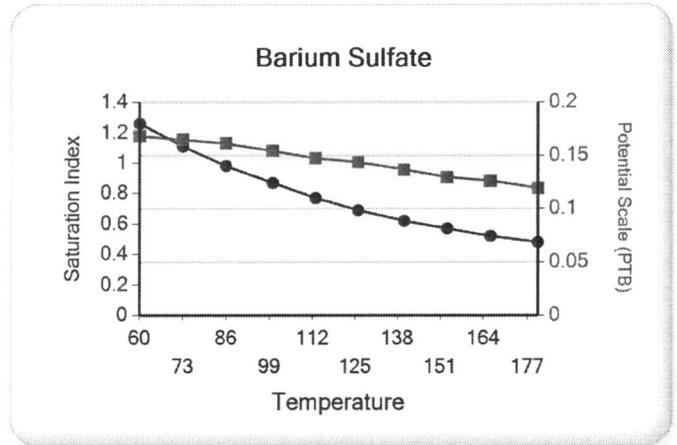
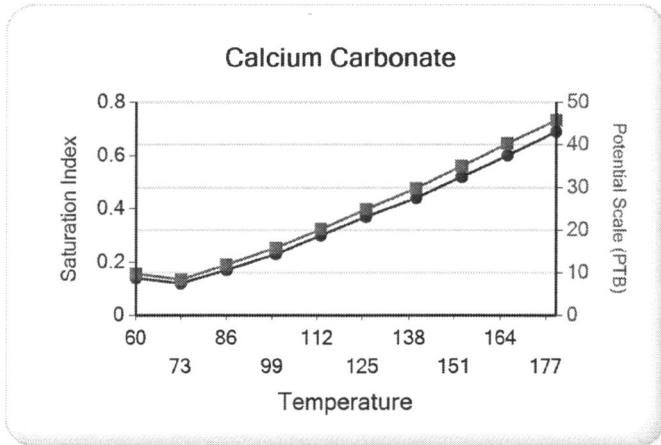
Temp (°F)	PSI	Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.14	9.76	1.26	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	0.12	8.38	1.11	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	0.17	11.89	0.98	0.16	0.00	0.00	0.04	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	0.23	15.84	0.87	0.15	0.00	0.00	0.14	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	0.30	20.18	0.77	0.15	0.00	0.00	0.25	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	0.37	24.85	0.69	0.14	0.00	0.00	0.35	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	0.44	29.81	0.62	0.14	0.00	0.00	0.46	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1014.00	0.52	35.00	0.57	0.13	0.00	0.00	0.56	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	1157.00	0.60	40.36	0.52	0.13	0.00	0.00	0.67	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	1300.00	0.69	45.83	0.48	0.12	0.00	0.00	0.77	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Water Analysis Report

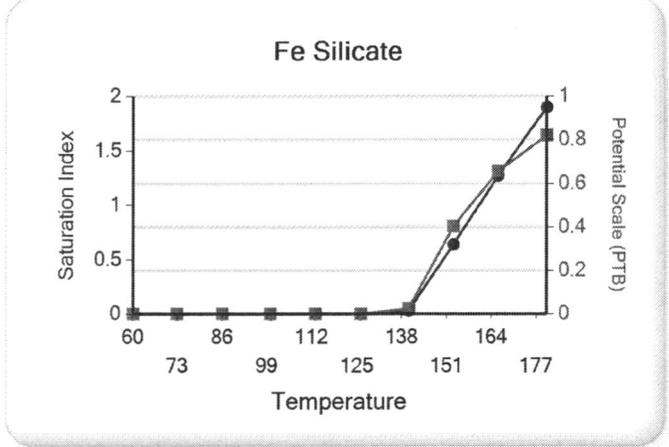
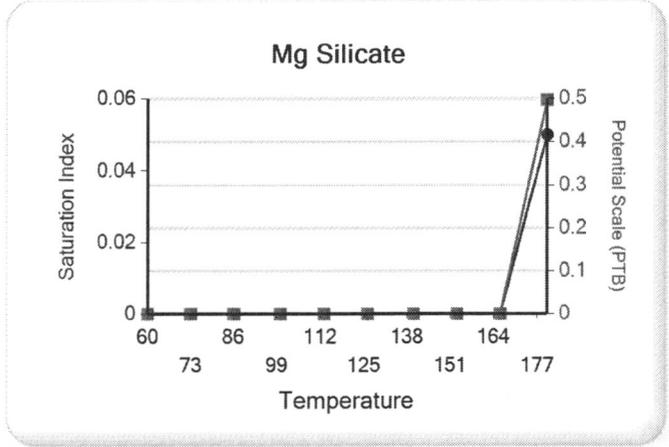
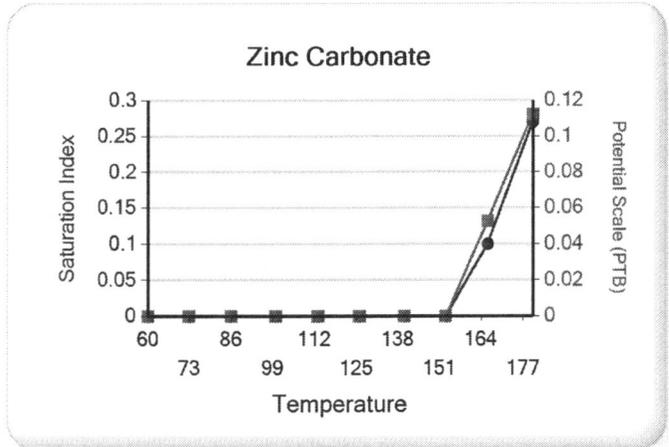
Temp (°F)	PSI	Hemihydrate CaSO4·0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.40
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.66
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.11	0.00	0.00	0.05	0.50	0.00	0.00	1.90	0.82

These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Fe Silicate



Water Analysis Report



RECEIVED

FEB 07 2014

Office of Enforcement, Compliance
and Environmental Justice (UFO)

February 3, 2014

Don Breffle
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: EPA AREA PERMIT NO. **UT2736-04422**
Mechanical Integrity Test
Standard Five year retesting for Ute Tribal 33-08-D3

Mr. Breffle:
The enclose Mechanical Integrity Test was performed on the above referenced well on January 19, 2014. This MIT was performed because the well was due for the regular five year Mechanical Integrity Test.

If you need any more information please call at (435) 722-5302.

Sincerely,
Petroglyph Operating Co., Inc.



Rodrigo Jurado
Regulatory Compliance Specialist

Encl: MIT for the Ute Tribal 33-08-D3

	GREEN	BLUE	CBI
TAB		2	

U2 Entered

Date 4/1/14

Initial JB

Mechanical Integrity Test Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 1/19/14
 Test conducted by: BILL MURRAY
 Others present: _____

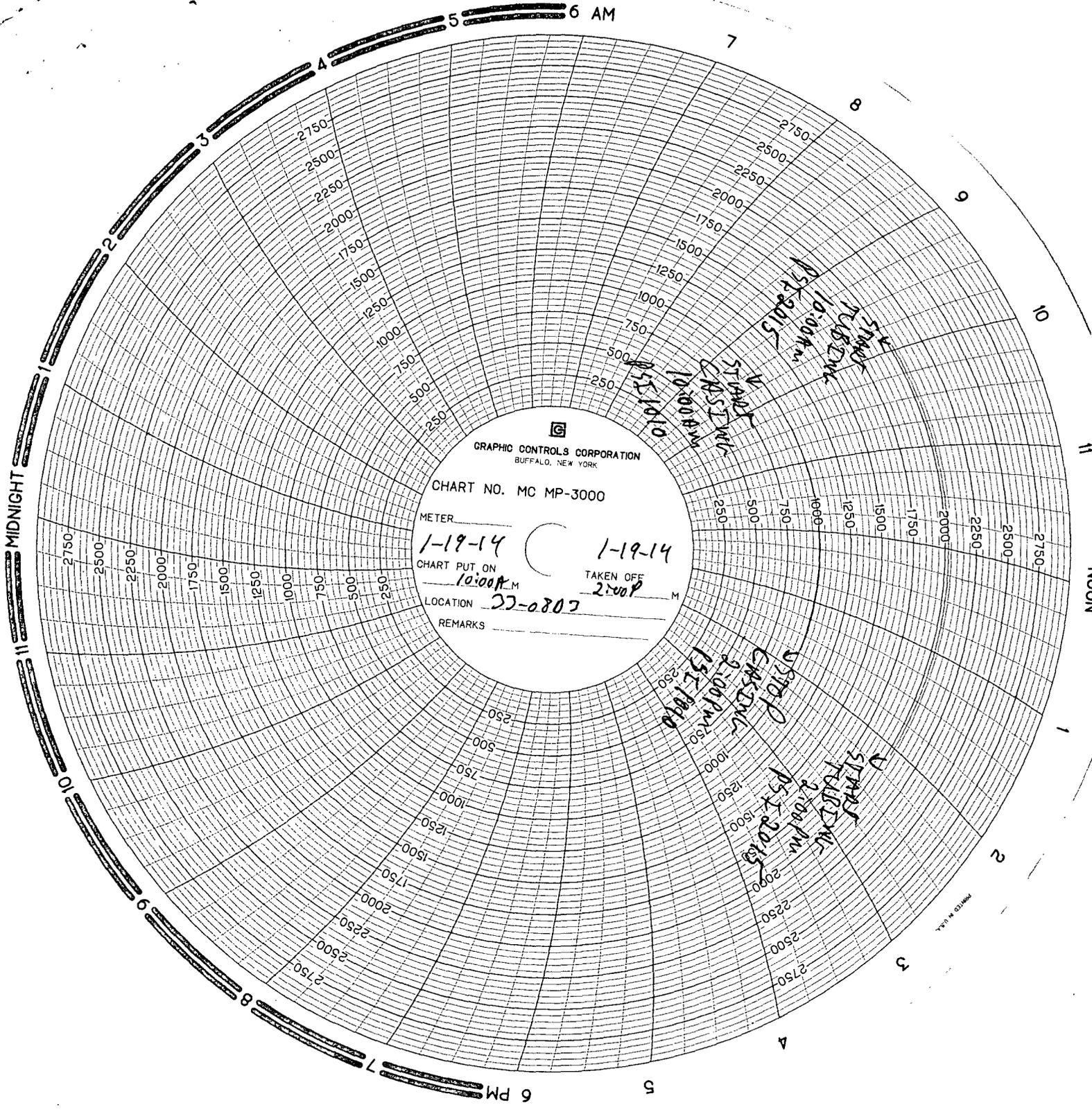
Well Name: <u>33-0803</u>	Type: ER SWD	Status: AC TA UC
Field: <u>ANTELOPE CREEK</u>		
Location: <u>33-0803</u> Sec: _____ T _____ N/S R _____ E/W County: <u>MUCHESNE</u> State: <u>UT</u>		
Operator: <u>PETROGLYPH ENERGY</u>		
Last MIT: <u>1</u> / <u>1</u>		Maximum Allowable Pressure: _____ PSIG

Regularly scheduled test? Yes [] No
 Initial test for permit? [] Yes [] No
 Test after well rework? [] Yes [] No

Well injecting during test? If Yes, rate: 161 bpd
 Pre-test annulus pressure: _____ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		PRESSURE RECORD	
Initial Pressure	<u>2015</u> psig	psig	psig
End of test pressure	<u>2015</u> psig	psig	psig
CASING / TUBING ANNULUS		PRESSURE RECORD	
0 minutes	<u>1010</u> psig	psig	psig
5 minutes	<u>1010</u> psig	psig	psig
10 minutes	<u>1010</u> psig	psig	psig
15 minutes	<u>1010</u> psig	psig	psig
20 minutes	<u>1010</u> psig	psig	psig
25 minutes	<u>1010</u> psig	psig	psig
30 minutes	<u>1010</u> psig	psig	psig
<u>4 HOURS</u> minutes	<u>1010</u> psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	[] Pass [] Fail	[] Pass [] Fail	[] Pass [] Fail

Does the annulus pressure build back up after the test? If Yes, _____ psig.



GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

CHART NO. MC MP-3000

METER

1-19-14

1-19-14

CHART PUT ON

10:00 P.M.

TAKEN OFF

2:00 P.M.

LOCATION

22-0807

REMARKS

MADE IN U.S.A.